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TB 18-108

TECHNICAL BULLETIN

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**ARMY AUTOMATION
CONTINUITY OF OPERATIONS PLAN (COOP)**

HEADQUARTERS, DEPARTMENT OF THE ARMY

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TECHNICAL BULLETIN

No. 18-108

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 1 November 1985

ARMY AUTOMATION

CONTINUITY OF OPERATIONS PLAN (COOP)

REPORTING OF ERRORS

The proponent agency of this bulletin is the US Army Information Systems Software Command. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, US Army Information Systems Software Support Command, ATTN: ASB-TEE-MR, Ft. Belvoir, Virginia 22060-5456.

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Summary. This technical bulletin provides Army standards, procedures and responsibilities for the Continuity of Operations Plan. The Continuity of Operations Plan (COOP) contains procedures to provide for continuous essential Automatic Data Processing (ADP) support during emergency conditions.

Applicability. This technical bulletin applies to the Active Army, the Army National Guard, the US Army Reserve, and Government-owned and contractor-operated organizations.

Impact on the New Manning System. This bulletin does not contain information that affects the New Manning System.

Interim Changes. Interim changes to this bulletin are not official unless they are authenticated by The Adjutant General. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

CHAPTER I

The first of the most important events of the year 1791 was the

adoption of the new constitution by the National Assembly.

This was a great step towards the establishment of a

new form of government, and it was a great triumph for the

people of France.

The new constitution was adopted on September 3, 1791.

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CHAPTER II

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CHAPTER III

The third of the most important events of the year 1791 was the

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people of France.

CHAPTER IV

The fourth of the most important events of the year 1791 was the

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new form of government, and it was a great triumph for the

people of France.

CHAPTER V

The fifth of the most important events of the year 1791 was the

adoption of the new constitution by the National Assembly.

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new form of government, and it was a great triumph for the

people of France.

CHAPTER VI

The sixth of the most important events of the year 1791 was the

adoption of the new constitution by the National Assembly.

CHAPTER 1

INTRODUCTION

TB 18-108

1-1. Purpose.

a. This bulletin provides the Army standards, procedures and responsibility for continuity of operations planning under Army Automation Management AR 18-1 Department of Defense (DOD) Directive 3020.26, FIPS PUB 31, and FIPS PUB 83. The Continuity of Operations Plan (COOP) procedures to provide for continuous essential Automated Data Processing (ADP) support during emergency conditions.

b. This bulletin also applies to word processing equipment (WPE) that interfaces or is used with automatic data processing equipment.

1-2. References.

AR 18-1	Army Automation Management.
AR 380-5	Department of the Army Information Security Program.
AR 380-380	Automated Systems Security.
DA Pam 50-3	The Effects of Nuclear Weapons.
DOD Directive 3020.26	Continuity of Operations, Policies, and Planning.
DOD 5200.1-R	Information Security Program Regulation.
FIPS 31	Guidelines for Automatic Data Processing Physical Security and Risk Management.
FIPS 65	Guidelines for ADP Risk Analysis.
FIPS 87	Guidelines for ADP Contingency Planning.

Requests for single or quantity orders of FIPS PUBS should be sent to:

National Technical Information Service (NTIS)
US Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
Telephone (703) 487-4650
FTS 737-4650

1-3. Explanation of abbreviations and terms.

Abbreviations and special terms used in this bulletin are explained in the glossary.

1-4. Objectives. This bulletin presents a methodology which, if applied, will—

a. Ensure the continuous availability of all mission essential ADP support.

b. Avoid commitment of resources of nonessential systems during emergency conditions.

c. Ensure the preparation and maintenance of required emergency planning documentation.

1-5. Guidance.

a. The continuity of operations planning, including the readiness testing thereof, is a continuing requirement resting with the command authority.

(1) Specifically, command authorities will—

(a) Plan and establish the command structure best suited to provide continuity of operations.

(b) Determine functions that are essential to the conduct of operations.

(c) Program and fund COOP readiness testing.

(d) Issue common doctrine for continuity of operations within the command.

(2) Within this context, the commander must determine the degree to which ADP operations are integral to essential operations and ensure that plans have been made which provide for continuation of such support during emergencies.

b. Heads of Army Staff agencies and major Army commands (MACOM) will monitor and ensure the adequacy of continuity planning within their activities by—

(1) Developing plans and strategies to support HQDA COOP.

(2) Ensuring all ADPE operations have had a risk analysis performed.

(3) Establishing a program of risk management for those deemed mission essential.

c. Army Staff and MACOM automation management offices (AMO)s will—

(1) Establish a program that conducts one or more unannounced COOP tests per year.

(2) Ensure proper liaison with functional users of ADP support to determine criticality of ADP systems under their purview.

(3) Ensure that all DPIs and DPAs address COOP needs.

d. Commanders or managers of DPIs and other activities that operate ADPE will—

(1) Assess risks to ADP operations.

(2) Select safeguards.

(3) Implement safeguards.

(4) Prepare the COOP and associated emergency documentation.

(5) Test effectiveness and conduct internal audits of plans, policies, and procedures for COOP.

(6) Report results of tests and audits to the Army Staff or MACOM AMO annually to determine overall trends in COOP problems and effectiveness and assure that subordinate elements COOP support higher level COOP.

(7) Review and approve COOP for minicomputers and microcomputers located and operated in functional areas.

e. Functional users of ADP systems will—

(1) Assess the continued requirement for ADP products under various emergency conditions.

(2) Provide written notification of such requirements through the Army Staff or MACOM proponent to the MACOM AMO and to the supporting activity.

(3) Provide and annual verification of such notification.

f. Project managers (PMs) or project officer, (POs) and ADPE systems acquisition will—

(1) Ensure that provisions of this technical bulletin are included in all new Army contracts or plans for system acquisition if possible.

(2) Whenever feasible, include the provisions of this technical bulletin in modifications to existing contracts.

1-6. Waivers. Request for waivers from any standard procedure or provision in this bulletin must be submitted in writing from the AMO to the Commander, US Army Information Systems Software Support Command, ATTN: ASB-TEE-MR, Fort Belvoir, VA 22060-5456. The request for waiver should include the following data:

- a. Name of requesting organization.
- b. Mailing address of requesting organization.
- c. Point of contact and telephone number.
- d. Point of contact at MACOM AMO knowledgeable with the request.
- e. Specific procedure the waiver is requested for.
- f. Justification for deviation from standard procedure.
- g. Proposed alternative to standard procedure.

CONTINGENCY PLANNING

2-1. Introduction.

a. It is neither cost-effective nor prudent management to reduce every risk to zero probability or zero loss expectancy. Accordingly, realistic risk management and contingency planning requires that plans be developed to reduce the consequences of a data processing loss to an acceptable level. The loss may be total or partial reduction of—

- (1) Automatic data processing equipment (ADPE).
- (2) Facilities supporting ADPE.
- (3) Software.
- (4) Data.
- (5) Documentation.
- (6) Personnel strength.
- (7) Communication.

b. The planning and preparation to minimize the effects of such losses is referred to as contingency planning. The degree of detail in the planning effort and, consequently, actions directed by the COOP depend on the criticality of data processing support to mission accomplishment. Mission essentiality is determined by the command AMO using results of the ADPE operations risk analysis report, with information from the data processing activity (DPA).

2-2. Emergency environment. It is necessary to plan for ADP operations in a variety of environments. Plans must cover three separate phases of action in response to an emergency.

a. Emergency response. There must be procedures for the immediate response to the types of threats shown below to protect lives, limit the damage to ADP resources, and minimize the impact on ADP operations—

(1) ADPE malfunctions or damage cause hardware systems to be partially or wholly inoperable during extended periods of time. Under this contingency, it may be necessary to obtain support from an alternate site. Specific criteria will be established on the maximum permissible amount of equipment degradation or downtime allowable before seeking backup support or exercising plans to deploy to an alternate site. Damage may be due to a number of causes, such as fire, flood, natural disaster, or civil disturbances. In each case, slight changes may be made in plans.

(2) Damage or destruction of ADP files, programs, or procedural documentation prevents operation. Under this common type of contingency, routine procedures that provide for backup storage of emergency sets of these materials will be used to recover without alternate site operations.

(3) Access is denied to the ADPE operations facility or damage results from vandalism, bomb threats, labor disputes, acts of nature, fire, water, electrical outages,

excessive heat or cold, or similar factors. This contingency normally includes one or both of the contingencies in (1) and (2) alone. Deployment to an alternate site and use of backup materials stored offsite will be required in most cases.

(4) Mobilization plans are initiated that cause normal workload to be wholly or partially replaced by special requirements. This contingency requires close coordination of all parties to the mobilization plan, as well as an assessment of the effect of mobilization on the functional ADP systems that make up the normal workload. Persons with designated duties during mobilization may not be available to the organization and plans must be made for their loss. The responsibility for the ADP portion of the mobilization plan rests with the AMO.

(5) Limited or general war, insurrections, or similar conditions require the organization to assume a wartime mission. The AMO must know the organization's operations plan (OPLAN) and coordinate and develop plans for any required ADP support during such conditions.

(6) War, insurrection, or similar conditions result in destruction of the ADPE operation. This contingency may require indefinite deployment of mission-essential systems to an alternate site of operation and redefinition of support to meet the wartime conditions.

b. Back-up operation. Back-up operation plans are prepared to ensure that essential tasks can be continued. These plans describe actions to be taken between the time operations are disrupted and the time the activity is restored to normal operations.

c. Recovery. Recovery plans are made to permit smooth, rapid restoration of the ADP facility, ADPE, software, data, or documentation following their physical destruction or damage.

2-3. Threat and risk analysis. The first step in planning for contingencies is the assessment of risk and identification of potential threats to continued support. FIPS PUB 31, FIPS PUB 65, and AR 380-380 will be the basis for a threat and risk analysis. Various costs associated with identified risks must be identified to make rational decisions on cost effective countermeasures. All activities that operate ADPE will perform a threat and risk analysis. The degree of analysis will not be determined by the dollar value of the ADPE (which can be insignificant for microprocessors), but by the essentiality of the product of the ADP system to the mission of the organization or supported users. The cost-effectiveness of the ADP technologies can be advantageous to the planner. The results of an economic analysis of manual backup or extended relocation may be used to justify equipment redundancy, excess capacity in similar ADPE within an activity, or the procurement of fault

tolerant systems (see para 2-12.) Good judgment should be used in decisions on equipment redundancy.

2-4. System criticality and workload priorities. The results of the risk analysis, with information from the functional user of the automated data systems (ADS) product, is used to determine workload priorities. When the functional user is also the manager or operator of the ADPE, such a determination may be easy. In the case of a DPI or shared resource, the process is more difficult. Survivability of ADP capability should be equal to that of the principal activities dependent upon the ADS for support. Present systems will be reviewed, in coordination with the user activities, to determine priority of need under each type of emergency condition, recognizing that the DPI would seldom be able to provide a normal level of support to all activities, and that turnaround and terminal response time may be much slower. Any planned change in user mission in an emergency (including war) will be evaluated in terms of ADP support requirements and impact on other DPI or activity's workload. Often, the AMO will be called on to make the final determination of priorities and workload.

2-5. Preparation of contingency plans.

a. The activity operating ADPE, whether a data processing installation DPI or DPA, will develop and maintain a current COOP. Some organizations that operate ADPE may have all their equipment in the functional user's area. If considering each computer system separately creates unnecessary duplication in the plan, all ADPE should be considered in a single analysis and COOP. Because the COOP is mandatory and since the planning contributes to stable mission accomplishment, the establishment of a formal working group, chaired by the ADP manager is necessary. Developing the COOP manager, is necessary. Developing the COOP requires substantial effort and must be programmed into the operating budget. It will also be necessary to have the participation of qualified people from the many elements within, and perhaps outside, the organization. Elements that should provide representatives are shown below.

- (1) The DPA(s)
- (2) The DPI or operator of the ADPE if different from (1) above.
- (3) ADP and security planners.
- (4) Communication planners.
- (5) Others who may be of assistance and who should be called upon, such as—
 - (a) Auditors.
 - (b) Facility managers of the General Services Administration (GSA), facility engineers, and private building managers.

(c) Legal counsel (for the preparation of formal written agreements).

b. Emergency response plans are the portion of the COOP that give steps to be taken immediately after an emergency to protect life and property and minimize the impact of the emergency. The COOP planner must review the results of the risk analysis and the workload priorities and determine actions to respond to an emergency. Damage control planning can be particularly important to the ADP facility. The value of being prepared to limit damage by having personnel trained to respond to emergencies cannot be overstated. Often, simple measures (such as covering equipment with plastic sheets to protect it from water damage, from burst pipes, or nearby firefighting efforts) can avert catastrophic loss and costly recovery. In many cases, there will be ample time to take damage measures or even to remove hardware and software to safe locations. In extreme emergencies, personal safety will dictate immediate evacuation. The plan should designate one or more persons who must initiate various phases of the plan. The plan may appoint a damage control officer to make on-the-spot determinations of actions necessary to protect ADP hardware and records. Emergency response plans are documented in section III of the COOP. These steps define the exact action to be taken and establish responsibility for taking action. Separate procedures are required to protect sensitive data. The requirements for these procedures are found in appendix C. Figure 2-1 is a sample of an emergency response procedure.

c. Back-up operation plans (see app A, sec IV of COOP) address situations identified in the risk analysis where costly delays of service to the functional user must be avoided. It has been customary in the past to consider the COOP as relating principally to the operation on an emergency basis at an alternate site selected for its ability to support critical ADS. This is the most extreme course of action under emergency back-up plans. Far more common causes of interruption of support are connected with the destruction of software or data, or temporary equipment malfunction. Plans must consider responses to local back-up actions and alternate site operation. DPIs that have critical wartime, peacetime, or mobilization missions must identify at least one alternate site of operations to absorb those critical ADS from the DPI that must relocate, without impacting critical ADS operated as part of the alternate site's normal workload. Reciprocal support agreements are encouraged and all support arrangements must be documented by letters of agreement (LOA). Figure 2-2 is a sample of an LOA. In developing back-up operations plans, the following must be considered:

(1) Protection of files, programs, and documentation. Procedures will be developed for the continuing protection of ADP files, application and system software, systems documentation, and processing instructions. The level of sensitivity for these materials will be determined by the activity's support role. Various levels of protection will be given to the materials associated with each system according to their mission sensitivity. These levels are—

(a) In-house backup. This level is the acceptable minimum and is mandatory for all executive and application systems. There will be at least two copies of each principal item of ADP files, programs, and procedures available to the activity operating ADPE. If the working copy is destroyed or becomes unavailable, the DPI may continue operations without significant delay. For tape and card master files and similar items, this may be achieved by setting proper file retention periods, so that earlier versions of the files with update transactions are available for reconstruction purposes. Files resident on disk or similar media will be dumped to tape or copied for back-up retention according to update frequency and anticipated difficulty in reconstruction. Special attention will be given to the periodic copying of files that are changed or updated in on-line mode.

(b) An alternate files storage area. This level of protection is mandatory for all DPIs that provide critical ADP support to the organization's mission performance. It is highly recommended for all mission-essential ADPE operations in activities other than DPIs. This protection is off-site storage of at least one copy of all ADP files, programs, and procedures to operate the high-priority applications systems either at the DPI or an alternate site of operation (including copies of COOP plans and related materials). The alternate files storage area should be located in an area reasonably accessible to the DPI, but not subject to the same degree of major threat as the DPI. For example, if the DPI is close to the sea or on a flood plain, the alternate files storage area should be on higher ground. It is recommended that the alternate files storage area be no closer than 1 mile from the ADPE operations center. Procedures will be established to keep material updated at the alternate files storage area on a continuing basis.

(c) Storage at the alternate site of operation or COOP site. This prepositioning of files, programs, and procedures in an updated and operational condition is necessary only when the highest priority of work is to be performed. Presumes that neither the principal site nor the alternate files storage area will be accessible in the required response time during or after an emergency. This level of protection for mission-essential files, programs, and procedures is mandatory for

activities with an essential peacetime or wartime support role that depends on ADP support for success.

(2) The COOP site. One or more alternate sites of operation or COOP site must be established for use if ADPE at the principal site cannot be used, due to damage or serious malfunction. This is mandatory for all DPIs that have critical wartime, peacetime, or mobilization missions. It is recommended that other DPIs with similar missions be considered first as COOP sites because of potential similarity of ADPE, software, and availability of trained personnel. The principal factors in selection of the of the COOP site shown below.

(a) Compatibility of installed ADPE at the potential site with both system and applications software that may need to be run under emergency conditions.

(b) Ability of the potential site to accept the emergency workload. In most cases, support of an activity exercising its COOP procedure will force the host activity to exercise a portion of its own contingency plan by reducing the amount of lower priority work load processed.

(c) Accessibility of potential sites to communications and transportation of input and output materials.

(d) Willingness of the potential site manager to enter a formal agreement to provide the necessary level of support. This factor is especially important when the potential COOP site belongs to another MACOM or a non-Army organization.

(e) Probability that the potential COOP site will not be subject to the same principal threats as might cause relocation from the prime sites. Evaluation of these factors will require a review of the COOP sites own threat and risk analysis.

d. Recovery planning addresses the necessary actions to fully recover from the back-up operation. The use of back-up facilities usually means increased cost and degraded performance. It is therefore worthwhile, but not mandatory, to include recovery plans in the COOP. FIPS PUB 31 contains detailed guidance on recovery planning and should be used by those choosing to include this phase of COOP. In essence, the recovery plans seek to reduce the burden of workload on the ADP staff that might already be reduced due to back-up operations. By effectively documenting requirements (to include the initial supply requirements, as well as facility and ADPE requirements), much of the recovery process can be handled by supporting procurement agency with little support from the ADP staff.

e. Deployment to the COOP site. Deployment to the COOP site requires detailed planning and close coordination. Detailed procedures need to be developed that—

(1) Determine when deployment will take place under various circumstances. Such a determination is often keyed to the defense readiness condition (DEFCON).

(2) Determine which applications will be deployed.

(3) List personnel who will deploy to the COOP site.

(4) Develop the load list materials and supplies to be deployed.

(5) Arrange for transportation, messing, and billeting.

2-6. Format and content of the formal Continuity of Operations Plan (COOP). The format and content of the formal COOP should conform to the guidance in appendix A. Deviations from the prescribed format are permitted at the discretion of the Army Staff or MACOM AMO when it is necessary to meet local conditions.

2-7. Automatic data processing (ADP) support under wartime conditions.

a. The continuity of ADP operations in national emergencies or under war-time conditions will agree with the role and survivability of the organization supported. Special care will be given to the identification of secure relocation or COOP sites with requisite ADPE, communications, transportation, backup files, and other necessary resources to permit DPI with war-time missions to perform as required. Meeting these war-time readiness needs may require ADP resource redundancy or mobile systems that otherwise would not be justified under peacetime conditions. Application systems and products that are essential to the war-time mission of the organization will be identified to establish workload priorities and specifically protect backup materials for these systems. COOP war-time requirements should be based on DOD Directive 3020.26. This directive stipulates planning for attack conditions, trans-attack period, and post attack periods. Van-mounted ADP Systems will be periodically tested to ensure their mobile operability. Adequate numbers of properly trained military maintenance personnel (not contractor) will be assigned to mobile ADP units to provide necessary maintenance service in field environments.

b. ADP managers performing risk assessments for systems with mobilization/war-time critical missions should be aware of the destructive effects of the energy generated by nuclear explosions. For an explosion 200 miles above the center of the United States, almost the whole country would be affected by electromagnetic pulse (EMP). Since high-speed digital computers and systems employing transistors or silicon or selenium semiconductor rectifiers are among the most

susceptible devices to EMP damage, consideration should be given to employing protective measures. EMP countermeasures are discussed in detail in DA Pam 50-3, chapter 11.

2-8. Emergency relocation of ADPE. Nonmission-essential ADPE in a foreign country or war zone will be evacuated to a safe area when it becomes endangered by enemy forces or other hostile acts. If it is not feasible to relocate to ADPE, all equipment and associated materials (ADP files, programs, and procedures) will be destroyed or rendered inoperative. ADP resources will not be permitted to fall into hostile hands because of their extreme potential value to the enemy. It is understood that circumstances may change the normal authority and responsibility for decisions as outlined in a through d below and decisions may be required of the DPI commander. If circumstances permit, the MACOM will—

a. Direct the DPI commander to destroy ADPE.

b. Evacuate ADPE and other ADP resources to a safe location.

c. Report the new location or destruction of the ADPE and the circumstances to the Commander, USAISSSC, ATTN: ASC-TEA, Fort Belvoir, VA 22060-5456, within 7 to 14 days.

d. Comply with instructions issued by the USAISSSC or DLA for reutilization or return to the vendor.

2-9. Classification of the COOP. Appropriate classification of the COOP is required. The identification of the location of an alternate site of operation or alternate files storage area does not in itself normally require classification of the plan. Plans with the war-time or emergency contingency mission of processing selected applications systems in support of a classified headquarters, command, or organization COOP (such as Headquarters, Department of the Army) or refer to classified portions of these plans will be classified under the guidance of AR 380-5. To promote familiarity of personnel with plan contents, it is recommended that classified materials be contained in annexes that may be removed from the basic unclassified plan and stored separately. Mission-essential ADP management information systems COOPs will, of necessity, be closely related to the continuity of operations planning for the supported command. As such, the following guidance may apply. Under DOD Directive 3020.26, special consideration must be given to the classification of the types of information shown below. (See also app B.)

a. The nature and location of indispensable records.

b. Planning assumptions on the nature of the threat and weapons effects, except those unclassified assumptions developed by the Joint Chiefs of Staff for crisis relocation planning.

c. Security measures to be used to protect personnel in transit to and during occupation of COOP site.

d. Special communications preparations.

e. Overall strength and composition of personnel.

f. Specifics of operation of all command centers. These will be at least confidential, whether used with long title or short title (acronyms), for the center or centers. However, the classified portions of the COOP will be confidential or lower, if possible, to encourage the widest distribution and use.

2-10. Successors. During wartime, faced with the possibility of an attack upon the United States, there can be no firm assurance that individuals will be available to allow the operation to function effectively. During a peacetime emergency, the same may be true, since those in command or authority may not be available to respond promptly to the to an emergency situation. It is, therefore, essential that all COOPs designate successors and alternates for key personnel, and that resources to perform essential functions be available. Authority and responsibility to act in an emergency should be predelegated. The conditions under which such delegations are started and indeed must be precise and those so delegated fully briefed on their responsibilities.

2-11. Contractor involvement. The Army's ADP requirements are, at times, satisfied by contractor-owned or contractor-operated facilities. In such operations, the participation of contractors is governed by the terms of the contract. The continuity of operations plan is essentially an Army plan, and the procedures for developing a COOP that rely on contractors for execution is essentially the same as for the Government-owned or Government-operated facilities. It is the Government's responsibility to ensure a thorough risk and threat analysis has been accomplished. Emergency responses and backup operations must be included in the statement of work for the contract. The COOP is the Army's plan and the contractor is limited to executing the terms of the contract. This situation often limits the flexibility of the plan and burdens the planner to define each action and reaction in terms of the supporting contractor's responsibility. Terms of the statement of work must be realistic and the Army planner must be sensitive to the fact that the contractor often does not have the flexibility to direct personnel to relocate, to hire on short notice, or to speed up delivery lead times. Planners must remember that the contractor is bound only by the terms of the contract and that consideration must be given to providing Government assets to augment the contract effort in emergency situations.

2-12. Fault tolerant equipment. The growth in real-time, transaction-oriented automation has resulted in a new generation of ADPE systems configurations that are highly tolerant to failure of any single component. Modern operating systems designed for configurations that employ multiple processor and shadowed peripherals can recover from component failure automatically without interruption of processing. Systems employing large-scale, intergrated circuitry typically are protected by battery backups, which prevent memory loss during unscheduled power outages. Such equipment should be considered when an analysis of mission justifies them and when costs indicate they would be of value.

RESPONSIBILITY

Shift supervision

ADPE operator

Staff members

(evacuation)

ACTION

Notify users of service interruption.

Terminate jobs in progress.

Rewind and dismount tapes.

Secure disk packs.

Power down equipment.

Power down support systems.

Secure work materials.

Turn off equipment, but leave room lights on.

Secure doors as areas are evacuated.

Figure 2-1 Sample Emergency response procedure

Sample Letter Of Agreement

I. Purpose

To prescribe the relationships, responsibilities, and related procedures agreed upon between DPI 1 and DPI 2 for the reciprocal use of computer facilities by DPI 1 and DPI 2 during periods of emergency. This agreement is executed under the provisions of Technical Bulletin No. 18-108, Army Automation Continuity of Operations Plan. Additional guidance on preparing agreements is in AR 340-15. Specific questions concerning agreements between the Army and commercial facilities should be directed to the Judge Adjutant General's Office.

II. Definitions.

1. Emergency conditions. Those conditions when the system at either facility is inoperative and is expected to remain inoperative for such a period of time that automated support from the alternate site is required to perform the minimum essential operations to accomplish the command mission.
2. Owner party. The military activity that is sole owner of computer facility designated by mutual consent as the alternate site for another military activity, i.e., DPI 1 and DPI 2, as appropriate.
3. User party. The military activity that is to be provided time on a computer facility at an alternate site due to the inoperative condition of its own computer. This includes administrative and personnel support provided by the user party.
4. Guaranteed time. The time that must be available for the user party (specific amount of guaranteed time to be stated in the terms of the agreement).
5. Additional time. The time that will be made available if operational commitments permit.
6. Storage space. The space (including cabinet, safe, storage for compartmental data, and shelving) that is provided at the alternate site for the user party to store classified and unclassified documents and materials to be used under emergency conditions (specified amount of storage to be stated in the terms of agreement).

III. Terms of Agreement

1. In an emergency and contingent on the existing workload at the nonaffected facility, the latter agency agrees to provide computer support to the other on a permissive basis. There shall be no reimbursement other than provision of machine hours in kind. Each command will execute a systems generation on the backup computers to permit emergency operation.
2. Notifications by the user party that the terms of the agreement must be exercised will be directed to the owner party by the most expeditious means.
3. Each party will notify the other in writing, within 10 days, of changes in the computer facility or local policies, procedures, etc., having an effect on the computer facility that would hinder the operations of the user party at the alternate site.
4. Personnel to operate the alternate computer facility will be provided by the user party. Approximately every 3 to 4 months each command will bring its system up to ensure that operators retain experience at the backup site.
5. Supervisory personnel from the owner party will be available when the user party is operating the computer facility.
6. The user party will maintain documents and materials stored at the alternate site for contingency purposes, except that the owner party agrees to place updated tapes, documentation, etc., in secure storage containers when received and return items identified as outdated to the user party as requested.
7. The user party will handle, process, and safeguard classified documents and materials while operating at the alternate site.
8. The operation of the computer facility at the alternate site by the user party shall be at no cost to the user party.
9. DPI 1 will provide DPI 2 with one shift per day (five shifts per week) guaranteed time. Additional time for both parties will be made available when operational commitments permit.
10. Secure storage space will be provided by the owner party for the user party's classified and unclassified and unclassified documents and materials (tapes, disk packs, cards, documents, etc.). Storage room for a minimum of 50 tapes, 15 boxes of paper, 5 cases of cards, 3 linear feet of documents, and use of disk packs, as needed, will be provided for the user party. This storage will be for a combination of collateral or compartmentalized data. At least one security container will be provided for the user party.

11. The owner party shall furnish expendable supplies (paper, magnetic tapes, ribbons, office supplies, etc.) necessary for the user party operations at the alternate site, within reasonable limits.
12. Office machine equipment, billeting, telephonic, and messing support for the user party personnel at the alternate site shall be provided by the owner party, if available.
13. The user party shall be responsible for the general cleanliness and condition of the alternate site during the period when operating the computer facility. On completion of operations by the user party, the computer facility shall be returned to the owner party in a clean and orderly condition.
14. In the event of mobilization, this agreement will remain in effect unless terminated by mutual agreement between the two parties.
15. Each party shall provide a point of contact through which all queries concerning this agreement will be channeled.
16. An annual review of the terms and responsibilities of this agreement will be made during the second quarter of each fiscal year. A review may be called at the discretion of either party. Changes to this agreement may be made at any time by mutual agreement between parties.
17. This agreement shall become effective when signed by both parties and concurrence from Headquarters, US Army _____ Command.

COMMANDER (DATE)
DPI 1

COMMANDER (DATE)
DPI 2

CHAPTER 3

TEST AND REVIEW

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3-1. Testing and review of the COOP. The continued validity of the COOP will be carefully evaluated on an annual basis and a record made of the results for followup corrective action. This evaluation will consist of—

a. A general review and update of the document and all procedures.

b. A detailed evaluation of the actual practices on retention and storage of back-up files, programs, and documentation to determine if they are current, complete, readily usable as intended, and properly stored.

c. Coordination with supported activities to revalidate emergency workload and priorities previously established.

d. Coordination with selected alternate sites of operation to ensure continued ability to provide back-up support as agreed.

e. The execution under test conditions of selected representative portions of the COOP. If possible, actual movement to the alternative site and test use of back-up materials for operation should be conducted. Before execution, a test plan should be developed and coordinated with principal ADP using activities, the COOP approval authority, and the selected COOP site. Similar tests of procedures for firefighting, damage control, evacuation, bomb threat, and other emergencies will assure adequate and workable plans. The test will, at the same time, provide an opportunity to train the ADP staff. Each test should have a specific objective. Evaluation of test results will provide guidance for modifications to the COOP. Test and after-action reports will be forwarded to the MACOM AMO for review. Appendix B contains sample checklists of the type which might be developed to test the COOP.

3-2. Evaluation criteria. Basic criteria for determining if procedures are accurate may include the following:

a. If a procedure requires some action be taken (such as powering-down equipment), the procedure should clearly indicate who is to take the action.

b. Procedures should follow a step-by-step, logical sequence of actions necessary to accomplish the goal of the procedure.

c. Procedures should be written in short, imperative statements.

d. Procedures must be current (and reflect any change to the facility, ADPE, mission, or staff).

3-3. Review of COOP material. COOP material for backup operations should be reviewed as follows:

a. Practices used to copy, label, and store COOP material (data files, program files, executive software, documentation, and plans of action) should be evaluated to determine if copies are complete, accurate, and up-to-date.

b. The list of backup copies (see app A, sec II of COOP) should be verified against actual copies to ensure each item is present.

c. The schedule for creating copies should be reviewed to ensure that users understand what baseline will be restored under various emergencies. Off-site storage of copies at the alternate files storage area must be fresh enough to meet user requirements.

d. Copies of COOP material for backup operations should be checked to ensure adequate environmental protection and that protection is commensurate with the level of sensitivity.

3-4. Review of COOP agreement. An assessment of the agreement with the COOP site should include—

a. A determination of whether adequate coordination has been accomplished.

b. A review of any changes in the COOP sites mission or ADPE that might affect the plan.

c. Interviews with COOP site personnel at various levels to determine if the COOP is realistic and if the magnitude of the effort is understood.

COOP AND COMMUNICATIONS NETWORKS

4-1. Background. Past COOPs have addressed primarily centrally located batch systems and have been relatively straightforward in terms overall threats, countermeasures, risk analysis, and other requirements. With the advent of communication networks, data base management systems, all the emerging technologies associated with the information processing industry, the COOP process has become very complicated. In addition, the proliferation of minicomputer and microcomputers has further complicated the COOP issue.

4-2. Dependence upon communications. The success or failure of the future COOP will depend on communications and net-working. Neither very large mainframes nor very small microcomputers will be able to continue operations without communications. Several Army hardware suppliers can replace computer equipment in 5 to 10 days after an emergency. The restoration of communication networks can take from 10 days to 6 weeks in the absence of widespread or national emergency. A widespread or national emergency most probably will result in longer restoration times.

4-3. Requirement for backup. Communications net-working is a highly system dependent variable and there is no standard implementation. Therefore, the communications networks COOP will be successful only to the extent that a complete risk analysis has been performed and to the extent that critical applications and services which are dependent on communications networks have been identified and prioritized. High priority, critical application users who rely on the network to perform their missions must have uninterrupted service if possible. This applies to both interactive and batch users. Therefore, the normal routine communications networks also must have a COOP that provides for alternates and backups. If a network relies on leased lines for operation, duplicate leased lines, switchable leased lines dedicated dial up, or some other combination arrangements are possibilities. The alternatives and methodologies employed depend on the communications requirements of the overall mission.

PROVISIONS FOR THE PROTECTION OF CLASSIFIED AND SENSITIVE DATA

5-1. Plans. Plans will be developed for the protection, or destruction of classified material in case of fire, natural disaster, civil disturbance, or enemy action. Such plans will establish detailed procedures and responsibilities for the protection of classified material to ensure that it does not come into the possession of unauthorized persons. (See AR 380-5 for further details and specifics.)

5-2. Emergency Procedures. These emergency planning procedures do not apply to material related to communications security (COMSEC). Planning for the emergency protection, including emergency destruction under no-notice conditions of classified COMSEC material will be developed per requirements of the National Security Agency Publication KAGI-D, Dec 67.

5-3. Emergency Plans. Emergency plans will provide for the protection of classified material in a manner to minimize the risk of injury or loss of life to personnel. In the case of fire or natural disaster, the immediate placement of authorized personnel around the affected area, preinstructed and trained to prevent the removal of classified material by unauthorized personnel, is an acceptable means to protect classified material and reduce casualty risk. Such plans will provide for emergency destruction to preclude capture of classified material when necessary. This determination will be based on an overall common sense evaluation of the following factors:

- a. Level and sensitivity of classified material held by the activity.
- b. Proximity of land-based commands to hostile or potentially hostile forces, or to communist-controlled countries.
- c. Flight schedules, or ship deployments, in the proximity of hostile or potentially hostile forces, or near communist-controlled countries.
- d. Size and armament of land-based commands and ships.
- e. Potential for aggressive action of hostile forces.

5-4. Preparation. When preparing emergency destruction plans, consideration shall be given to—

- a. Reduction of the amount of classified material held by a command as the first step toward planning for emergency destruction.
- b. Storage of less frequently used classified material at more secure commands in the same geographical area, if available.
- c. Transfer of as much as possible of retained classified material to microforms, thereby reducing the bulk that needs to be evacuated or destroyed.

d. Emphasis on the priorities for destruction, designation of personnel responsible for destruction, and designation of places and methods of destruction. Additionally, if any destruction site or any particular piece of destruction equipment is to be used by more than one activity or entity, the order or priority for use of the site or equipment must be clearly stated.

e. Identification of the individual who is authorized to make the final determination as to when emergency destruction is to begin and the means by which this determination is to be communicated to all subordinate elements maintaining classified information.

f. Authorization for the senior individual present in an assigned space containing classified material to deviate from established plans when necessary.

g. Emphasis on the importance of starting destruction early enough to preclude loss of material. The effect of premature destruction is considered unimportant when measured against the possibility of compromise.

5-5. Priorities. The emergency plan will require that classified material holdings be assigned a priority for emergency evacuation or destruction. Priorities should be based on the potential effect on national security should such holdings fall into hostile hands, under the following general guidelines:

- a. Priority one—Exceptionally grave damage (top secret material).
- b. Priority two—Serious damage (secret material).
- c. Priority three—Identifiable damage (confidential material).

5-6. Destruct contingency. If, as determined by appropriate threat analysis, priority one material cannot otherwise be afforded reasonable protection from hostile elements in a no-notice emergency situation, provisions will be made to install anti-compromise emergency destruct (ACED) equipment to ensure timely initiation and positive destruction of such material. Additional guidance on protection of classified material is AR 380-380 and DOD 5200.1R.

APPENDIX A

TB 18-108

INSTRUCTIONS FOR DEVELOPMENT AND PREPARATION OF DPI CONTINUITY OF OPERATIONS PLAN

Sample COOP Outline

Continuity of Operations Plans for Army DPI will consist of the following contents as a minimum.

DEPARTMENT OF THE ARMY
DATA PROCESSING INSTALLATION (DPI NUMBER)
FORT BLANK, MARYLAND 12345

CONTINUITY OF OPERATIONS PLAN (COOP)

DATE: _____

Table of Contents

Section	Paragraph
I General	
Purpose	1-1
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Figure A-1. COOP Outline

APPENDIX A

INSTRUCTIONS FOR DEVELOPMENT AND PREPARATION OF DPI CONTINUITY OF OPERATIONS PLAN (cont)

COOP Appendixes

- A. Letter of agreement with COOP site
- B. Key personnel and points of contact at COOP site
- C. Inventory list of COOP material at alternate files storage area
- D. Inventory of COOP material prepositioned at COOP site
- E. Magnetic media and supplies required at COOP site (items that will not be transported from home site, but are required for operations at the COOP site)

A-1. Paragraph 1-1, Purpose. This is a summarized statement of the purpose for which the plan is intended; for example "This plan provides guidance for on-site and contingency operations at the COOP site in the event emergencies, disasters, mobilization or war, and for maintaining a state of readiness to provide the necessary level of ADP support to user activities under all conditions identified in the activity risk analysis."

A-2. Paragraph 1-2, Mission. This is derived from the mission stated in authorization documents (TOE and TDA) and the more specific mission and functions statement. The mission statement in the COOP should emphasize the scope of the organization support role.

A-3. Paragraph 1-3, Responsibilities. This paragraph should state who does what in connection with the COOP, using position titles. An abbreviated example is as follows:

a. The ADP manager retains basic responsibility for evaluating emergency situations and directing that portions of this plan become operational.

b. The Chief, Operations Branch will maintain and update the COOP as required.

A-4. Paragraph 1-4, Contingencies or risk analysis. The contingencies listed in the risk assessment will be discussed, with general statements of planned actions under each contingency. Actions will include those necessary on a recurring basis to maintain readiness. The paragraph will contain a statement to identify the current risk analysis by the reference or office symbol of the originating office, date, and title of authorizing official.

A-5. Paragraph 1-5, Job or system priorities. This paragraph will contain a presentation of the work priority scheme. A minimum of four levels of priority will be defined from highest to lowest (1 through 4) in terms of the mission essentiality of the work. If the organization has a wartime support role, application systems required under this contingency will be identified as the highest priority. Individual jobs and systems will be listed, in order of priority. For each job and system, indicate the memory size, serial runtime, peripheral device requirements, output media, and minimum frequency of applications to be run. Possible examples of priorities are shown below.

a. Priority 1—jobs that are essential to command functions, and which are processed interactively or must be processed daily.

b. Priority 2—mission-essential jobs that can be delayed up to 2 days.

c. Priority 3—jobs that may be delayed up to 14 days.

d. Priority 4—jobs that may be delayed indefinitely or for which manual backup or alternate processing procedures exist. The assumption is that, if the emergency that has placed the organization in a COOP situation is projected to last longer than 14 days, priority 3 jobs will be deployed to the COOP site of operations. The priorities are defined under local requirements and may be expressed in hours rather than days, or may require several additional levels of definition.

A-6. Paragraph 1-6, Succession of personnel. Enter, by position title, alternates who are designated to assume responsibilities in the event of incapacity or nonavailability of personnel assigned primary responsibilities in paragraph 1-3.

A-7. Paragraph 2-1, List of records and documentation. Provide a comprehensive list by type of records and documentation essential to continuity of operations under all contingencies. Some examples are: Tape master files, tape backups of disk master files, JCL decks, copy of COOP, run books, and so forth. The actual list of materials to be maintained at the alternate files storage area, giving the specific identification and location of each item will be in appendix C, inventory the list of COOP material at the alternate files storage area. Appendix D is the inventory of COOP material prepositioned at the COOP site.

A-8. Paragraph 2-2, Procedures for safeguarding essential materials. This paragraph will contain instructions and backup procedures to be used on a regular basis by the DPA to protect essential files, programs, procedures, and other materials identified in paragraph 2-1 and appendixes C and D of the COOP plan. Specific guidance will be developed to control the routine update or replacement of items stored off-site to maintain currency and the ability to operate essential systems without recourse to materials stored at the primary site of operations. This paragraph will also contain the location of alternate files storage areas and procedures for gaining access to them.

A-9. Paragraph 3-1, Detailed emergency response procedures. This paragraph will contain detailed procedures for each contingency identified in the risk assessment. If the decision is to accept the risk without preparing a response, it must be stated in this paragraph.

A-10. Paragraph 4-1, Designation of COOP site. Enter information to identify alternate sites of operation, to include organizational designation, DPI number (if applicable), and exact location. Appendix A will contain a copy of the letter of agreement with the COOP site.

A-11. Paragraph 4-2, ADPE configurations. Enter a narrative and graphic description of minimum ADPE required to support emergency workload. Any special or unique hardware or software features required will also be identified. Unique hardware or software features or shortcomings of the ADPE at the alternate site will be evaluated, and plans will be given for methods to compensate for these during operation at the alternate site. A check of commercial DPIs should be made to determine where similar configurations exist. If appropriate, negotiations should be undertaken to use the commercial site under extenuating or emergency circumstances.

A-12. Paragraph 4-3, Facilities, security, supplies, communications, and transportation requirements. This paragraph will contain a narrative statement of minimum support requirements for the activity if it were to deploy to an alternate site. The requirements stated in the plan must be negotiated in advance and, if possible, include in the letter of agreement with the host of the alternate site. They include but are not limited to—

a. Office-type space (square feet) and office equipment (for example, desks, chairs, and typewriters) needed for a general work area at the COOP site. Storage, personnel billeting, and messing requirements will also be identified.

b. Security measures required at the COOP site. A statement of the current TEMPEST status of the DPI will be included. Special instructions in this paragraph are necessary only if the security requirements at the alternate site differ from those of the DPI.

c. Magnetic media and supplies required for operation at an alternate site. These will be discussed in this paragraph, and a detailed list of daily requirements under emergency conditions will be placed in appendix E. This paragraph will also give information on whether these materials will be prepositioned and on means for reimbursement or replenishment of any of the alternate site operations.

A-13. Paragraph 4-4, Personnel requirements. Develop a list by title, grade, and number of personnel required to support each contingency listed in paragraph 1-4 of the plan. For contingencies that require deployment to an alternate site, include the security clearance and other special requirements. If the host at the alternate site has agreed to provide personnel support include this information in the plan.

A-14. Paragraph 4-5, Planning coordination. This paragraph should outline step-by-step coordinating procedures with affected users, other support activities, and the alternate site (if deployment is envisioned) for implementation of the plan for any contingencies list in paragraph 1-4 of the plan.

A-15. Paragraph 4-6, Emergency movement procedures. Provide a detailed plan for support of transportation requirements in the event of deployment to an alternate site. The plan will include movement of personnel, files, and any special supplies on an initial basis, plus procedures for continued movement of data and output products between the parent organization and the alternate site throughout the period of deployment.

A-16. Paragraph 4-7, AUTODIN interface. Include procedures for the use of available AUTODIN facilities to support contingency operations. Data and output should be transmitted between the parent organization and the alternate site of operation via AUTODIN to the maximum extent feasible.

A-17. Paragraph 5-1, Recovery plans. This paragraph contains data necessary to recover from contingencies. ADPE configurations, requirements documents, plans for supporting facilities, and essential initial loadlists are included to aid recovery after partial or total loss of the ADPE or its supporting facility.

A-18. Section VI, Contingency operations as host site. This section of the COOP is to be prepared by each site designated as the COOP site for another activity. The section will express the plans developed to absorb extra workload and provide support while acting as the host of another activity. Full consideration must be given to the fact that severe adjustment to the host's present level of support to its own users may be required to accept even the highest priority workload from the hosted activity. Before entering into alternate site support agreements with other activities, the anticipated impact on present users' ability to perform their missions must be assessed. Specific items to be included in section VI are noted in succeeding paragraphs.

A-19. Paragraph 6-1, Planning coordination. This paragraph will tie in with paragraph 4-5 of the primary DPI's COOP, and will outline step-by-step procedures for the host of the alternate site in initiating support of the other activity. It will include provisions for notification of users with low-priority workloads and local organizational elements that would be tasked to assist the host in supporting the DPI being deployed.

A-20. Paragraph 6-2, ADPE configurations. Enter a narrative description of ADPE configurations of the DPI to be hosted, giving specific information on special hardware or software features or other compatibility problems.

A-21. Paragraph 6-3, Facilities, security, supplies, communication, and transportation. This paragraph will provide a narrative statement of the requirements of the activity to be hosted at the COOP site and the procedures to be used by the host to satisfy them. As an example, this will include—

- a. Office and working space to be provided.
- b. Storage space for materials accompanying the activity to be hosted.
- c. Magnetic media and supplies to be made available to the activity to be hosted and the procedure for replenishment/reimbursement.
- d. Special security requirements of the hosted activity, or means to permit access if the host operates at a higher level of security than the activity being hosted.

A-22. Paragraph 6-4, Personnel requirements. Develop a list by title, grade, and number of any personnel support (for example, operators) to be provided to the activity being hosted under each type of contingency. This paragraph will identify any special training requirements of host personnel to support alternate site operations and any security clearance required.

A-23. Paragraph 4-5, Billeting and messing requirement. Provide a brief statement of facilities available or procedures for billeting and messing hosted personnel, if appropriate.

A-24. Paragraph 4-6, MINIMIZE processing plan. Through coordination with the activity to be hosted, determine the minimum resources required to support its alternate site operations. Then, using the list of local jobs by priority, identify the priority levels of applications systems that can be run for local users when acting as a host site. As a general rule, only the highest priority levels of work should be run for the activity being hosted. The host should consult closely with its own users who may be affected before actual commitment of resources to the activity being hosted. This paragraph will contain the plan developed by the host to provide a reasonable level of support for shifts, partitions, machines, and other requirements.

The first part of the chapter discusses the importance of understanding the underlying structure of the data. This is crucial for choosing the right statistical model and for interpreting the results correctly.

In the second part, we explore various methods for estimating the parameters of the model. These methods range from maximum likelihood estimation to Bayesian inference, each with its own strengths and weaknesses.

The third part of the chapter focuses on hypothesis testing. We discuss how to formulate a null hypothesis and an alternative hypothesis, and how to use statistical tests to decide whether to reject the null hypothesis.

In the fourth part, we look at confidence intervals. These provide a range of values within which the true parameter value is likely to lie, given the data we have observed.

The fifth part of the chapter discusses the concept of power. This is the probability of correctly rejecting the null hypothesis when it is false. Power is an important consideration when designing a study.

In the sixth part, we explore the concept of effect size. This is a measure of the magnitude of the effect being studied. Effect size is important for understanding the practical significance of the results.

The seventh part of the chapter discusses the concept of model fit. This is a measure of how well the model describes the data. There are several ways to assess model fit, and we discuss some of the most common ones.

In the eighth part, we look at the concept of model selection. This is the process of choosing the best model from a set of candidate models. There are several criteria for model selection, and we discuss some of the most common ones.

The ninth part of the chapter discusses the concept of model validation. This is the process of checking whether the model works well on new data. There are several ways to validate a model, and we discuss some of the most common ones.

In the tenth part, we look at the concept of model interpretation. This is the process of understanding what the results of the model mean. There are several ways to interpret a model, and we discuss some of the most common ones.

The eleventh part of the chapter discusses the concept of model communication. This is the process of presenting the results of the model to others. There are several ways to communicate a model, and we discuss some of the most common ones.

In the twelfth part, we look at the concept of model documentation. This is the process of keeping a record of the model and the results. There are several ways to document a model, and we discuss some of the most common ones.

The thirteenth part of the chapter discusses the concept of model maintenance. This is the process of keeping the model up to date. There are several ways to maintain a model, and we discuss some of the most common ones.

In the fourteenth part, we look at the concept of model evaluation. This is the process of assessing the performance of the model. There are several ways to evaluate a model, and we discuss some of the most common ones.

The fifteenth part of the chapter discusses the concept of model comparison. This is the process of comparing different models. There are several ways to compare models, and we discuss some of the most common ones.

In the sixteenth part, we look at the concept of model selection. This is the process of choosing the best model from a set of candidate models. There are several criteria for model selection, and we discuss some of the most common ones.

The seventeenth part of the chapter discusses the concept of model validation. This is the process of checking whether the model works well on new data. There are several ways to validate a model, and we discuss some of the most common ones.

In the eighteenth part, we look at the concept of model interpretation. This is the process of understanding what the results of the model mean. There are several ways to interpret a model, and we discuss some of the most common ones.

The nineteenth part of the chapter discusses the concept of model communication. This is the process of presenting the results of the model to others. There are several ways to communicate a model, and we discuss some of the most common ones.

In the twentieth part, we look at the concept of model documentation. This is the process of keeping a record of the model and the results. There are several ways to document a model, and we discuss some of the most common ones.

The twenty-first part of the chapter discusses the concept of model maintenance. This is the process of keeping the model up to date. There are several ways to maintain a model, and we discuss some of the most common ones.

In the twenty-second part, we look at the concept of model evaluation. This is the process of assessing the performance of the model. There are several ways to evaluate a model, and we discuss some of the most common ones.

TEST AND REVIEW OF COOP

B-1. Evaluation Criteria for COOP and Test Methods. In most cases, the actual execution of the COOP, or portions of the COOP, require considerable planning and coordination. It may not be possible to satisfactorily execute the COOP for test and review. If the COOP has never been executed and cannot be during the review, the review team and COOP planning team should establish a detailed plan and schedule for a later date. This plan to test the COOP should be included as part of the official accreditation documentation. This form is an example of the type which might be locally developed to document the results of the test and review. A list of evaluation criteria and test methods which may be employed follows.

B-2. Review plans for periodically executing the COOP. Review plans and procedures for the periodic test execution of the COOP. Ensure these plans state—

- a. Periods during which the COOP will be executed.
- b. Personnel to coordinate COOP execution and their specific duties.
- c. Specific types of COOP execution to be conducted are as follows:
 - (1) Complete execution of the COOP involving all personnel at the DPI and the alternate site.
 - (2) Partial COOP execution designed to test specific portions of the COOP at different times.
- d. DPI and alternate site personnel necessary for each execution of the COOP.

B-3. Review COOP execution documentation. Review documentation detailing when and how the COOP has been executed. Documentation to be reviewed includes computer operator logs and notes by the COOP planning team and other supervisory personnel who participated in and coordinated the execution of the COOP. This documentation should include data shown below. If the execution documentation shows problems have occurred due to discrepancies in the COOP, the ADP manager should ensure the COOP has been modified to correct these problems.

- a. Detailed accounts of actions taken.
- b. Reports on problems experienced.
- c. Recommended corrective actions.

B-4. Review emergency response procedures. Review the DPI's emergency response procedures to ensure that there are written procedures. These procedures should clearly describe action to be taken for various emergencies and responsibility for the action. There should be a separate procedure for each natural and man-made emergency to which the DPI is vulnerable. At a minimum, there should be procedures for fires, flood, power outages, and bomb threats. If the DPI is located in a geographical area where a hurricane might occur, there should be an emergency response procedure for hurricanes.

B-5. Verify emergency workload priorities. Ensure that the COOP has established the priority of work to be done in an emergency. During emergencies, it is unlikely that all work can be done. A list of priority work should be established so the most important work continues to be done, if possible. The emergency workload priority list in the COOP should be reviewed by the computer operations manager and programming supervisors.

B-6. Review alternate procedures for processing. Ensure that the COOP provides for alternate procedures for processing in an emergency. During emergencies it is likely that there will be changes in processing procedures. For example, on-line data entry may have to be changed to punched card input. The COOP should describe the alternate procedures that can be used for processing high priority work. Each DPI must decide what alternate procedures can be used, based on normal processing procedures and workload priorities.

B-7. Observe a drill using alternate procedures. The review team should request that alternate procedures be used to ensure that priority workloads can be satisfied. For example, the DPI can pretend that on-line data entry is not available and require that punched cards be used for input. The review team should coordinate this kind of drill with the computer operations manager, input or output area supervisor, and functional users.

B-8 Conduct an emergency response drill. The review team should request an emergency response drill and observe how well procedures are followed. For example, the review team could request that the computer operations staff use the emergency response procedure for a water emergency such as a broken pipe. The review team should observe how accurately and quickly the computer operations staff responds. The procedure and the actual drill should be compared to each other. The drill may reveal an action that should be included in the written

procedure, but is missing, or that not all steps in the procedure are followed. As an example, assume that the procedure does not say to cover automation equipment with protective sheeting, but the review team observes that the computer operations staff does this. This step should then be added to the written procedure.

B-9. Verify alternate site letter of agreement. Ensure that the COOP contains a valid and current (within 12 months) letter of agreement with an alternate site. The advice of legal counsel should be obtained to determine if the letter of agreement is complete, accurate, and valid. See appendix F for a sample letter of agreement.

B-10. Verify alternate site hardware compatibility. Ensure that the COOP provides a description of the alternate site's hardware configuration. The computer operations manager should be able to determine if hardware is compatible. The review team may wish to send a copy of the description to the alternate site to ensure that it is accurate. It is also important to advise those who use the facilities as an alternate site of any configuration changes. This should be done in writing. If the hardware at the alternate site is not compatible, the review team may wish to recommend that another site be selected.

B-11. Verify alternate site software compatibility. Ensure that the COOP provides a description of the alternate site's systems software. The system's programming supervisor should be able to determine if the software is compatible. The review team may wish to send a copy of the description to the alternate site to ensure that it is accurate. If the software at the alternate site is not compatible, the review team may wish to recommend that another site be selected.

B-12. Verify list of required personnel for deployment. Ensure that the COOP fully describes responsibilities and duties of personnel who are designated participants in the deployment to the alternate site. Also, an alternate should be named for each designated participant. The review team should ask each designated participant if he or she is aware of his or her responsibilities in case of deployment. All designated participants should be aware of their responsibilities for deployment to an alternate site of operation.

B-13. Verify arrangements for billeting and messing deployed personnel. Ensure that the COOP describes arrangements for housing and feeding deployed personnel at the alternate site. The COOP should state the responsible individuals at the alternate site. It should also describe the facilities to be made available, the number of personnel who can be accommodated, and the period for which such arrangements are valid. The review team should contact the COOP site's ADP manager to verify the arrangements.

B-14. Verify transportation arrangements for deployment. Ensure that the COOP describes the needed transportation arrangements. This description should include—

- a. Agreements with the motor pool.
- b. Load lists.
- c. Transport of personnel to COOP site.
- d. Transport of supplies to COOP site.
- e. Transport of data/input/output between COOP site and functional users supported by the principal DPI.
- f. Routes to be taken and motor pool requirements.
- g. Trucks needed.

B-15. Verify communications arrangements for deployment. Ensure that the COOP describes communications needs during the term of deployment to an alternate site. This description should include AUTODIN, AUTOVON, and commercial telephone services that will be required. The review team should submit this part of the COOP to post or installation communications officials for their expert opinion on its completeness and feasibility.

B-16. Inventory supplies. The review team should take a physical inventory of supplies stored at the alternate site. The actual supplies should match the official list in the COOP. Any differences should be corrected immediately. If the review team is unable to conduct the inventory, the COOP site's ADP manager may be willing to do it on behalf of the principal DPI.

B-17. Review procedures for supplies maintenance. Ensure that the COOP describes policies and procedures to maintain supplies at the alternate site of operation. Supplies include printer paper, cards, tapes, disks, and other materials needed for processing. These policies and procedures should include the following:

- a. A listing of items that should be maintained as backup supplies.
- b. The quantity of each item that should be maintained.
- c. Individuals responsible for maintaining backup supplies.
- d. A review schedule to ensure that supply requirements are changed to meet new or additional processing needs.

The computer operations manager should be able to determine if the supplies maintained at the alternate site are adequate based on the emergency workload priority.

B-18. Review procedures for maintenance of backup materials. Ensure that the COOP clearly describes policies and procedures for producing and maintaining backup copies of critical software and documentation. The policies and procedures should include the following:

- a. List of items for which a backup is required.
- b. Schedule for upgrading backup materials.
- c. Individuals responsible for maintaining backup materials.
- d. Location of on-site storage for backup materials.
- e. Location of secure off-site storage for backup materials.

B-19. Inventory backup materials. The review team should take a physical inventory of backup materials stored on-site and the off-site location. The off-site location and the designated alternate site of operations should be the same, whenever possible. If the review team is unable to go to the off-site storage location, the ADP manager at that location may be willing to take the inventory on behalf of the principal DPI. There should be a current copy of every item designated as critical at both storage sites. Any difference between the official listing in the COOP and the physical backup materials should be corrected immediately.

B-20. Execute the COOP. Coordinate with the review team and COOP planning team to execute the COOP. In many cases, especially at large, complex sites, it may not be possible to test the entire COOP all at once. The following steps provide for exercising elements of the COOP separately:

- a. Run some jobs with on-site hardware, using all other resources from the COOP site.
- b. Run some DPI jobs on COOP site hardware.
- c. Execute bomb threat drills, fire drills, and evacuation procedures. If this was performed during physical security testing, it need not be repeated as part of COOP execution. Problems noted in the physical security sections, however, should be evaluated in terms of the COOP.
- d. Execute a callup of all required personnel in order of succession. Note length of response from time of notification until they are prepared for duty. This callup should involve personnel at the COOP site and the principal DPI. The callup should not have been previously announced. This will enable the team to evaluate personnel readiness as it would be in the case of an actual emergency.

B-21. Review recovery plans. Ensure that the COOP describes recovery plans to return to normal operation after an emergency. Recovery plans should include the following:

- a. Tasks to be performed and responsibility for performing them. For example, the recovery plans should indicate who is responsible for obtaining repairs to, or replacement of, automation equipment.
- b. A description of floor space and location requirements.
- c. Physical requirements of the facility where the DPA is to be located, such as partitions, raised flooring, HVAC, and electrical power.
- d. A description of automation equipment requirements.
- e. A description of supply needs, such as tapes, disks, furniture, and so on.
- f. Estimates for acquiring needed space and equipment from engineers, vendors, and the procurement office.



COOP TEST RESULTS

page 1 of 2

DATE: _____

TECH POC: DPI supervisory personnel, post support activities, alternate site ADPSSO

PERSONNEL CONDUCTING TEST:

<i>Name</i>	<i>Position</i>	<i>Organization</i>
_____	_____	_____
_____	_____	_____
_____	_____	_____

EVALUATION CRITERIA/TEST METHODS/EXPECTED RESULTS:

Figure B-1. COOP Test Results.

COOP TEST RESULTS

page 2 of 2

RESULTS: Satisfactory _____ Unsatisfactory _____

DESCRIPTION OF TEST RESULTS:

CORRECTIVE ACTION: Implemented _____ Planned _____ Recommended _____

DESCRIPTION OF CORRECTIVE ACTION:

Figure B-2. COOP Test Results.

GLOSSARY

Section I. ABBREVIATIONS

ACED - anticompromise emergency destruct
ADP - automatic data processing
ADPE - automatic data processing equipment
ADPSSO - automatic data processing systems security officer
ADS - automated data system
AMO - Automation Management Office
AUTODIN - automatic digital network
AUTOVON - automatic voice network
COMSEC - communications security
COOP - Continuity of Operations Plan
DLA - Defense Logistics Agency
DOD - Department of Defense
DPA - data processing activity
DPI - data processing installation
EMP - electromagnetic pulse
FIPS PUB - Federal Information Processing Standards publication
GSA - General Services Administration
HQDA - Headquarters, Department of the Army
LOA - letter of agreement
MACOM - major Army command
OPLAN - operations plan
PM - project manager
PO - project office or project officer
TDA - Table of distribution and allowance
TOE - Table of organization and equipment
USAISSSC - US Army Information Systems Software Support Command
WPE - Word Processing equipment

Section II. TERMS

ADP Managers. Officials who control Army ADPE assets; commanders or directors of DPIs, managers whose area maintains and operates ADPE, officials who oversee Government-owned, contractor-operated ADPE, or contractor-owned, contractor-operated ADPE in support of Army operations, contracting officers' technical representatives (COTR) for ADP-oriented contracts; and project managers for ADPE systems acquisition.

Alternate files. Essential directives, instructions, programs, plans, emergency action procedures, and other documents required for the conduct of essential functions in a national emergency situation. The alternate files are maintained at the alternate or relocation sites.

Alternate files storage area. An offsite storage area that contains at least one copy of all ADP documentation needed to operate the high priority application systems either at the organization or an alternate site of operations.

Alternate site. A prepared, predesignated location to which all or portions of a civilian or military headquarters may be evacuated. It should be capable of rapid activation and expansion. This applies principally to national-level organizations. The alternate site of ADP operations is the COOP site.

Alternate site of operations. Another organization selected for its ability to support the affected organization critical ADP requirements during an emergency.

Continuity of Operations Plan. The plan of action containing procedures that provide for the continuous availability of ADP.

Emergency Relocation Site. A site located outside a prime target area to which all or portions of a civilian or military headquarters may be moved. It may be inactive or on a standby basis and may be manned to provide

GLOSSARY (cont)

for the maintenance of the facility, communications, and data base. It should be capable of rapid activation, of supporting the initial requirements of the relocated headquarters for predetermined period, and of expansion to meet wartime requirements of the relocated headquarters. For purposes of standardization, emergency relocation sites for ADP operations are known as COOP sites.

Risk analysis. An analysis of system assets and vulnerabilities to establish an expected loss from certain events based on estimated probabilities of the occurrence of those events.

By Order of the Secretary of the Army:

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General, United States Army
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